IN THE CLAIMS

Please amend the claims as follows:

1. **(Currently Amended)** A process for converting a feedstock into at least one useful material, comprising:

preparing a slurry from the feedstock, wherein the feedstock includes at least one of animal processing waste, mixed plastics, PVC, and rubber;

heating the slurry to a first temperature sufficient to breakdown components of the slurry at a pressure above the saturation pressure of water in the slurry to produce a conditioned slurry

reacting the conditioned slurry in a first reaction at a second, higher temperature sufficient to hydrolyze materials in the conditioned slurry to produce a reacted feed comprising at least one reacted solid product, at least one reacted liquid product, and water, the pressure in said first reaction being at least at the saturation pressure of water in the conditioned slurry;

separating said at least one reacted solid product, said water, and said at least one reacted liquid product from said reacted feed; and

converting said at least one reacted liquid product into at least one useful material.

2. **(Previously presented)** The process of claim 1, wherein said at least one useful material comprises carbon solids.

3. **(Previously presented)** The process of claim 1, wherein said at least one useful material comprises a mixture of hydrocarbons.

4. **(Previously presented)** The process of claim 3, wherein said mixture of hydrocarbons comprises a fuel gas and an oil.

5. **(Previously presented)** The process of claim 1, wherein said preparing comprises driving off ammonia from said feedstock.

6. **(Previously presented)** The process of claim 1, wherein said first reaction takes place at a pressure ranging from about 20-120 atmospheres.

7. **(Previously presented)** The process of claim 6, wherein said pressure is about 50 atmospheres.

8. **(Previously presented)** The process of claim 1, wherein said first reaction takes place at a temperature ranging from about 150°C to about 330°C.

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9. **(Previously presented)** The process of claim 1, wherein said reacting drives off at least one contaminant.

10. **(Previously presented)** The process of claim 9, wherein said at least one contaminant is sulfur-containing material.

11. **(Previously presented)** The process of claim 9, wherein said at least one contaminant is a mercury-containing material.

12. **(Previously presented)** The process of claim 9, wherein said at least one contaminant is a halogen-containing compound.

13. **(Previously presented)** The process of claim 1, wherein said reacting drives off steam.

14. **(Previously presented)** The process of claim 13, wherein said steam is redirected to heat said slurry during said preparing.

15. **(Previously presented)** The process of claim **I**, wherein said separating comprises a first separation and a second separation.

16. **(Previously presented)** The process of claim 1, wherein said at least one reacted liquid product comprises at least one fat derivative or fatty acid.

17. **(Previously presented)** The process of claim **I**, wherein said at least one reacted solid product comprises at least one mineral compound.

18. **(Previously presented)** The process of claim 1, further comprising, prior to said converting, diverting a portion of said at least one reacted liquid product and separately converting said portion into at least one specialty chemical.

19. **(Previously presented)** The process of claim 18, wherein said at least one specialty chemical comprises a fatty acid.

20. **(Canceled)**

21. **(Previously presented)** The process of claim 1, wherein said at least one useful material is pathogen-free.

22. **(Previously amended)** The process of claim 1, wherein said feedstock is rubber materials.

23. **(Previously presented)** The process of claim 22, wherein said feedstock comprises one or more tires.

24.-25. **(Canceled)**

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26. **(Previously amended)** The process of claim 1, wherein said feedstock is animal processing waste.

27. **(Previously amended)** The process of claim 1, wherein said feedstock is mixed plastics.

28. **(Previously amended)** The process of claim 27, wherein said mixed plastics include PVC.

29. **(Previously presented)** The process of claim 28, wherein said first reacting drives off at least one chlorine-containing contaminant.

30. **(Previously presented)** The process of claim 26, wherein the animal processing waste comprises animal manure.

31-39. **(Canceled)**

40. **(Previously presented)** The process of claim 1, wherein said at least one useful material is a carbonaceous materia1.

41. **(Previously presented)** The process of claim 40, wherein the carbonaceous material is depleted of mercury-containing contaminants.

42. **(Previously presented)** The process of claim 40, wherein the carbonaceous material is depleted of sulfur-containing contaminants.

43-47. **(Canceled)**

48. **(Currently Amended)** A process for converting a feedstock into at least one useful material, comprising:

preparing a slurry from the feedstock;

passing the slurry through a heat exchanger, wherein one or more gases is vented, to produce a conditioned slurry;

reacting the conditioned slurry in a first reaction, wherein steam and gas is liberated, to produce a reacted feed comprising at least one reacted solid product, at least one reacted liquid product, and water, wherein the reacted solid product comprises at least one mineral;

lowering a temperature, and lowering a pressure, of the reacted feed, to produce an intermediate feed;

separating the at least one mineral from the intermediate feed, thereby producing a mixture comprising at least one reacted liquid product, and water;

diverting said water to storage; and

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converting said at least one reacted liquid product to produce carbon solids and a mixture of hydrocarbon liquid, vapor and gases.

49-64. **(Canceled)**

65. **(Currently Amended)** A process for converting tires into oil, comprising:

dissolving the tires in a solvent;

preparing a slurry from the tires;

heating the slurry to a first temperature sufficient to breakdown components of the slurry at a pressure above the saturation pressure of water in the slurry to produce a conditioned slurry

reacting the conditioned slurry with in a first reaction at a second, higher temperature sufficient to hydrolyze materials in the conditioned slurry to produce a reacted feed comprising at least one reacted solid product, at least one reacted liquid product, and water, the pressure in said first reaction being at least at the saturation pressure of water in the conditioned slurry;

separating said at least one reacted solid product, said water, and said at least one reacted liquid product from said reacted feed; and

converting said at least one reacted liquid product into oil.

66. **(Previously presented)** The process of claim 65, wherein the first reaction takes place at a temperature ranging from about 250°C to about 400°C.

67. **(Canceled)**

68. **(Previously presented)** The process of claim 65, wherein the solvent is an oil obtained from said converting.

69. **(Currently Amended)** A process for converting mixed plastics into at least one useful material, comprising:

preparing a slurry from the mixed plastics;

heating the slurry to a first temperature sufficient to breakdown components of the slurry at a pressure above the saturation pressure of water in the slurry to produce a conditioned slurry

reacting the conditioned slurry with in a first reaction at a second, higher temperature sufficient to hydrolyze materials in the conditioned slurry to produce a reacted feed comprising

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at least one reacted solid product, at least one reacted liquid product, and water, the pressure in said first reaction being at least at the saturation pressure of water in the conditioned slurry;

separating said at least one reacted solid product, said water, and said at least one reacted liquid product from said reacted feed; and

converting said at least one reacted liquid product into at least one useful material.

70. **(Previously presented)** The process of claim 69, wherein the first reaction takes place at a temperature ranging from about 300° to about 525°C.

71. **(Previously presented)** The process of claim 69, wherein said converting takes place at a temperature ranging from about 300°C to about 525°C.

72.-74. **(Canceled)**

75. **(Currently Amended)** A process for converting animal processing waste into at least one useful material, comprising:

preparing a slurry from the animal processing waste;

heating the slurry to an initial temperature sufficient to maintain the slurry in a liquid state and limit biological activity in said slurry;

heating the slurry to a first temperature sufficient to breakdown proteinaceous materials in the slurry and drive off ammonia at a pressure above the saturation pressure of water in the slurry to produce a conditioned slurry

reacting the conditioned slurry in a first reaction at a second, higher temperature sufficient to hydrolyze materials in the conditioned slurry to produce a reacted feed comprising at least one reacted solid product, at least one reacted liquid product, and water, the pressure in said first reaction being at least at the saturation pressure of water in the conditioned slurry;

separating the at least one reacted solid product, the water, and the at least one reacted liquid product from the reacted feed; and

converting the at least one reacted liquid product into a mixture of hydrocarbon oils, fuel gas, and carbon.

76. **(Previously presented)** The process of claim 75, wherein the first reaction takes place at a temperature ranging from about 150°C to about 330°C.

77. **(Previously presented)** The process of claim 75, wherein said converting takes place at a temperature ranging from about 300°C to about 525°C.

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78. **(Previously presented)** The process of claim 75, wherein the first reaction takes place at about 250°C.

79. **(Previously presented)** The process of claim 75, wherein the first reaction takes place at a pressure ranging from 20-120 atmospheres.

80. **(Previously presented)** The process of claim 75, wherein the first reaction takes place at a pressure of about 50 atmospheres.

81. **(Previously presented)** The process of claim 75, wherein the animal processing waste comprises animal offal.

82. **(Previously presented)** The process of claim 81, wherein the animal offal comprises turkey offal.

83. **(Canceled)**

84. **(Previously presented)** The process of claim 26, wherein said animal processing waste comprises animal offal.

85. **(Previously presented)** The process of claim 84, wherein said animal offal comprises turkey offal.

86. **(Previously presented)** The process of claim 75, wherein the animal processing waste comprises animal manure.

87. **(Previously presented)** The process of claim 1, wherein said converting comprises separating water from the reacted liquid product.

88. **(Previously presented)** The process of claim 87, wherein a fuel oil is produced by said converting.

89. **(Previously presented)** The process of claim 87, wherein said converting further comprises subjecting said at least one reacted liquid product to at least a second reaction.

90. **(Previously presented)** The process of claim 89, wherein the second reaction takes place at a temperature between about 300°C to about 525°C.

91. **(Previously presented)** The process of claim 89, wherein the second reaction comprises cracking the liquid hydrocarbon fuel.

92. **(Previously presented)** The process of claim 1, wherein said converting takes place at a temperature ranging from about 400°C to about 600°C.

93. **(Previously presented)** The process of claim 1, wherein said reacting comprises decomposing and hydrolyzing the feedstock.

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94. **(Previously presented)** The process of claim 92, wherein the decomposing comprises deaminating the feedstock.

95. **(Previously presented)** The process of claim 93, wherein the decomposing further comprises decarboxylating the feedstock.

96. **(Currently Amended)** A process for converting a feedstock into at least one useful material, comprising:

providing a feedstock including at least one of animal processing waste, mixed plastics, PVC and rubber;

slurrying the feedstock to form a slurry;

heating the slurry to a temperature at least sufficient to limit biological activity in the slurry and produce a conditioned slurry;

subjecting the conditioned slurry to temperature and pressure sufficient to produce a decomposition reaction in said conditioned slurry;

subjecting the conditioned slurry to temperature and pressure sufficient to produce a hydrolysis reaction in said conditioned slurry;

separating liquid, gaseous and solid fractions produced in said conditioned slurry by the decomposition and hydrolysis reactions;

separating water from the separated liquid to provide a fuel oil.

97. **(Previously presented)** The process of claim 96, wherein the decomposition reaction comprises deamination and decarboxylation.

98. **(Previously presented)** The process of claim 97, wherein the decomposition reaction and the hydrolysis reaction occur simultaneously.

99. **(Previously presented)** The process of claim 96, wherein slurrying comprises reducing particle size of the feedstock and fluidizing.

100. **(Previously presented)** The process of claim 96, wherein slurrying further comprises adding a solvent.

101. **(Previously presented)** The process of clam 97, wherein the temperature and pressure of the hydrolysis reaction are about 200°C to about 290°C.

102. **(Previously presented)** The process of claim 96, further comprising cracking the fuel oil.

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103. **(Previously presented)** The process of claim 96, further comprising fractional disti11ing of the fuel oil to produce at least a heavy oil and a light oil.

104. **(Previously presented)** The process of claim 103, further comprising cracking the heavy oil.

105. **(Previously presented)** The process of claim 96, wherein said animal processing waste comprises turkey offal.

106. **(Previously presented)** The process of claim 96, wherein said mixed plastics include PVC.

107. **(Previously presented)** The process of claim 96, where said rubber comprises tires.

108. **(New)** The process of claim 1, wherein said first reaction comprises hydrolysis and decomposition of the conditioned slurry.

109. **(New)** The process of claim 108, wherein said hydrolysis and decomposition occur simultaneously.

110. **(New)** The process of claim 108, wherein said heating step comprises:

first heating the slurry to an initial elevated temperature sufficient to maintain the slurry in a liquid state and limit biological activity in said slurry, said initial elevated temperature being less than the first temperature;

containing the slurry at said initial elevated temperature; and

subsequently heating the slurry to the first temperature.

111. **(New)** The process of claim 110, wherein the initial elevated temperature is a temperature of about 140 °F and the first temperature is a temperature of about 300 °F.

112. **(New)** The process of claim 110, wherein said containing comprises storing the slurring in a first storage tank and said heating to the first temperature occurs in a second storage tank.

113. **(New)** The process of claim 48, further:

heating the slurry to a first temperature sufficient to breakdown components of the slurry at a pressure above the saturation pressure of water in the slurry to produce said conditioned slurry; and

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wherein said reacting comprises reacting the conditioned at a second, higher temperature sufficient to hydrolyze materials in the conditioned slurry to produce said reacted feed, the pressure in said first reaction being at least at the saturation pressure of water in the conditioned slurry.

114. **(New)** The process of claim 113, wherein:

said passing the slurry through a heat exchange heats the slurry to an initial elevated temperature sufficient to limit biological activity in the slurry; and

said heating the slurry to a first temperature is a separate heating step after said heat exchanger.

115. **(New)** The process of claim 114, wherein the initial elevated temperature is a temperature of about 140 °F and the first temperature is a temperature of about 300 °F.

116. **(New)** The process of claim 75, wherein the initial elevated temperature is a temperature of about 140 °F and the first temperature is a temperature of about 300 °F.

117. **(New)** The process of claim 116, further comprising storing the slurry at said initial elevated temperature before said heating to the first temperature.

118. **(New)** The process of claim 96, wherein said heating comprises:

first heating the slurry to an initial elevated temperature sufficient to maintain the slurry in a liquid state and limit biological activity in said slurry;

containing the slurry at said initial elevated temperature; and

subsequently heating the slurry to higher temperature sufficient to breakdown components of the slurry at a pressure above the saturation pressure of water in the slurry to produce said conditioned slurry.

119. **(New)** The process of claim 118, wherein the initial elevated temperature is a temperature of about 140 °F and the higher temperature is a temperature of about 300 °F.

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